



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,522	12/23/2003	Takeshi Shibata	04329.3210	7673
22852 7590 05/14/2007 FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER NGUYEN, KHIEM D	
			ART UNIT 2823	PAPER NUMBER
			MAIL DATE 05/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/743,522

Applicant(s)

SHIBATA ET AL.

Examiner

Khiem D. Nguyen

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 29-34 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13, 19-27 and 36 is/are allowed.
- 6) ☒ Claim(s) 14-18, 28 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

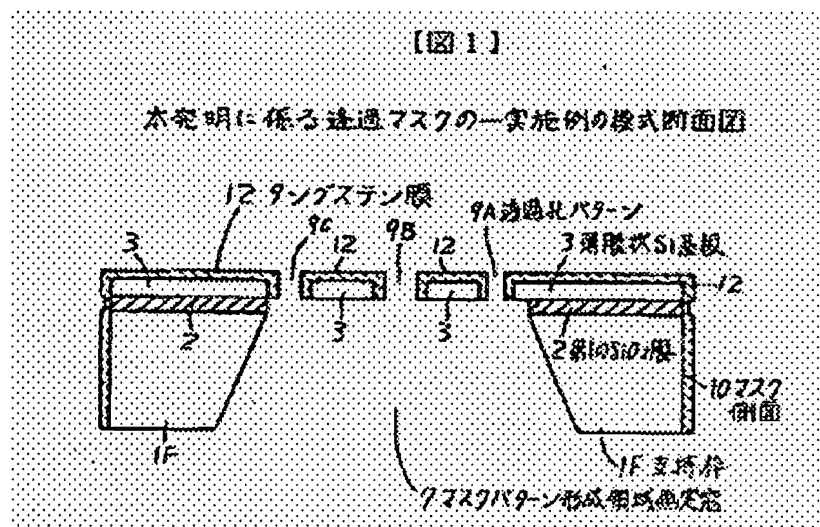
DETAILED ACTION***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoru et al. (Japan Publication 06-244091) in view of Kim (U.S. Patent 6,447,688).

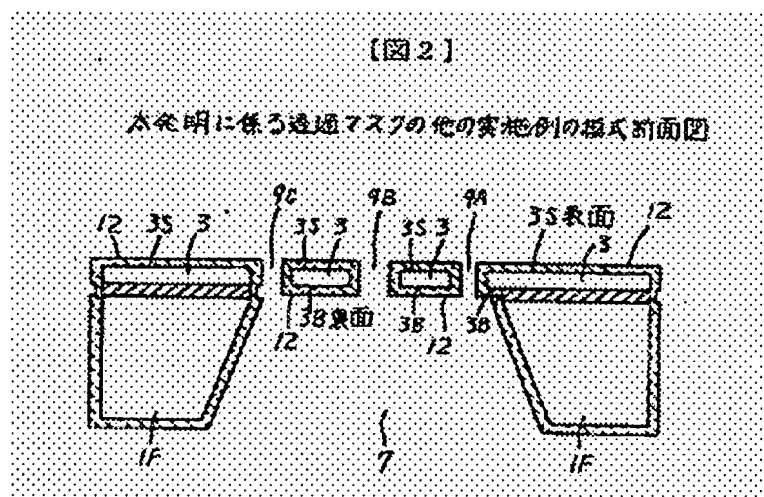
In re claim 14, Satoru discloses a stencil mask comprising: a conductive thin film 3 (Si) having a first region (middle region) and a second region peripheral of the first region, the first region including a plurality of first openings 9A-C so as to form a mask pattern; an insulating film 2 formed on the second region of the conductive thin film 3 (Detailed Description, page 3, paragraph [0021] and FIG. 1);



Art Unit: 2823

a conductive support **1f** formed on the insulating film **2**, the conductive support having a second opening (center opening) corresponding to the first openings; and

a conducting member **unlabeled** formed in the second opening **7** excluding an inner wall of the first openings **9A-C**, the conducting member connecting the conductive thin film **3** and the conductive support **1F** electrically (pages 3-4, paragraph [0022] and FIG. 2).

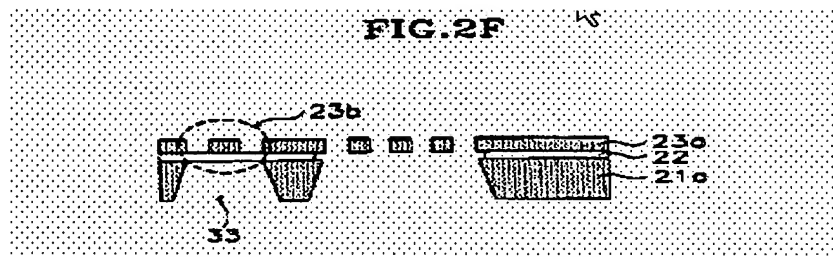


Satoru discloses wherein one of the conductive thin film **3** and the conductive support **1F** has a second opening **7** in which the conducting member **unlabeled** is formed (FIG. 2) but does not explicitly disclose a third opening formed in the conductive thin film and the insulating film, the third opening being positioned in the second region (peripheral region).

Kim, however, discloses a stencil mask comprising a conductive thin film **23a** having a plurality of first openings; an insulating film **22** formed on the second region of the conductive thin film **23a**; a conductive support **21a** formed on the insulating film **22**, wherein the conductive support **23a** having a second opening corresponding to the first

Art Unit: 2823

openings and a third opening 33 formed in the conductive thin film 23a and the insulating film, the third opening being positioned in the second region (periphery region) (col. 3, line 35 to col. 4, line 14 and FIG. 2F).



As Kim disclose, one of ordinary skill in the art would have been motivated to provide a third opening formed in the conductive thin film and the insulating film in order to improved the quality and/or throughput of the stencil mask.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant(s) claimed invention was made to modify Satoru et al. reference with a third opening formed in the conductive thin film and the insulating film as taught by Kim in order to improved the quality and/or through put of the stencil mask (see Abstract, Kim).

In re claim 15, as applied to claim 14 above, Satoru discloses all claimed limitations including the limitation wherein the electrical conductivity of the conducting member 12 (W) is higher than that of each of the conductive thin film 3 (Si) and the conductive support 1f (Si) (Detailed Description, pages 3-4, paragraphs [0021]-[0022]).

In re claim 16, as applied to claim 14 above, Satoru discloses all claimed limitations including the limitation wherein the conductive thin film 3 and the conductive support 1f are made of silicon (Detailed Description, page, paragraph [0022]).

In re claim 17, as applied to claim 14 above, Satoru discloses all claimed limitations including the limitation wherein the conducting member 12 is made of tungsten (Detailed Description, page 3, paragraph [0022]).

In re claim 18, as applied to claim 14 above, Satoru discloses all claimed limitations including the limitation wherein the stencil mask further comprising silicon or silicide formed on the surface of the conducting member (FIG. 2).

Claim Rejections - 35 USC § 102

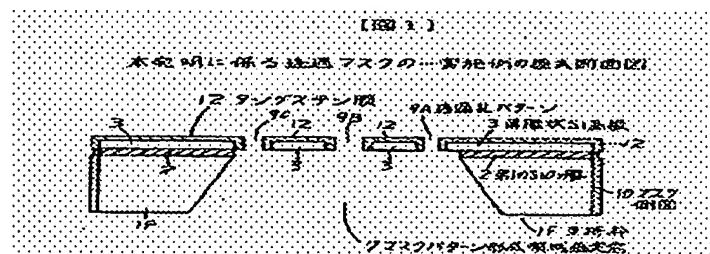
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

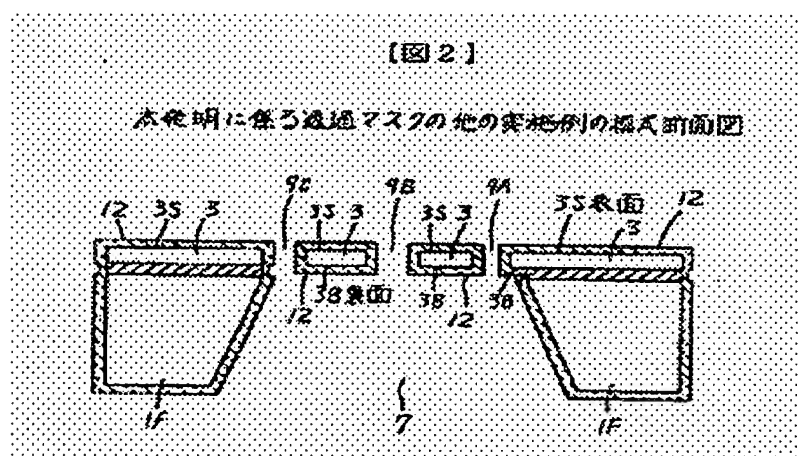
4. Claims 28 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Satoru et al. (Japan Publication 06-244091).

In re claim 28, Satoru discloses a mask forming substrate comprising: a conductive thin film 3 (Si) having a first region (middle region) as an opening formation region and a second region peripheral of the first region 9B; an insulating film 2 (SiO₂) formed on the conductive thin film 3; a conductive support 1f formed on the insulating film 2 (Detailed Description, page 3, paragraph [0021] and FIG. 1);



a conductive support 1f formed on the insulating film 2; an opening 7 formed in the conductive thin film 3 corresponding to a part of the second region and the insulating

film 2; and a conductive member 12 formed in the opening 7, the conductive member 12 connecting the conductive thin film 3 and the conductive support 1f electrically (Detailed Description, pages 3-4, paragraph [0022] and FIG. 2).



Allowable Subject Matter

5. Claims 1-13, 19-27, and 36 are allowed over prior art of record.

Reasons For Allowance

6. The following is an examiner's statement of reasons for allowance:

After further search and consideration of Applicants' response filed on March 1st, 2007 (see Applicants' arguments in Page 15-16 of the March 1st, response), it is determined that the prior art of record neither anticipates nor renders obvious the claimed subject matter of the instant application as a whole taken alone or in combination, in particular, prior art of record does not teach "a third opening formed in one of the conductive thin film and the conductive support and the insulating film; and a conducting member formed in the third opening excluding an inner wall of the first openings", as recited in the independent claims 1, 9, 19, and 24, respectively.

Art Unit: 2823

Claims 2-8, 10-13, 20-23, 25-27, and 36 also allowed as being directly or indirectly dependent of the allowed independent base claims.

Response to Applicants' Amendment and Arguments

7. Applicants' arguments filed on March 01st, 2007 have been fully considered but they are not persuasive.

Applicants' arguments with respect to independent claims 1, 9, 19 and 24 are moot since these claims are now indicated as allowable in this Office Action, and claims 2-8, 10-13, 20-23, 25-27, and 36 also allowed as being directly or indirectly dependent of the allowed independent base claims (see Paragraph 6 above).

Applicants' remaining arguments with respect to claims 14-18, 28, and 35 have been considered but are moot in view of the new ground(s) of rejection.

For these reasons, examiner holds the rejection proper.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

Art Unit: 2823

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D. Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:30 AM - 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K.N.
May 04, 2007


BROOK KEBEDE
PRIMARY EXAMINER